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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,525	02/26/2004	Gerhard J. Mueller	GK-ZEI-3103C/500343.20100	6449

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EXAMINER

NGUYEN, THONG Q

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/787,525	MUELLER ET AL.	
	Examiner	Art Unit	
	Thong Q. Nguyen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,8-11,13 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 11, 13, 16 and 19-20 is/are rejected.
- 7) ☒ Claim(s) 8-10,17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendment filed on 3/15/2005. It is noted that in the amendment, applicant has amended claims 5, 10 and 13 and canceled claim 4. The remaining claims 1, 3, 5, 8-11, 13 and 16-20 are examined in this Office action. Claims 2, 6-7, 12 and 14-15 were canceled by the applicant in the amendment of 5/19/2004.

2. It is also noted that applicant has amended the specification by adding the material disclosed in the foreign application DE 26 31 551 and filed a Declaration to state that the amended material to the specification is the same material of the mentioned foreign application.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 11 and 13 are objected to because of the following informalities. Appropriate correction is required.

a) In claim 11: on lines 1-2, the feature related to the reflecting device lacks a proper antecedent basis. Applicant should note that the base claim 1, lines 4-5 recites a mirror for reflecting light. The claim has never disclosed/recited a

reflecting device and thus the feature "the reflecting device" of claim 11 lacks a proper antecedent basis.

b) In claim 13: on line 3, "a observation" should be changed to --an observation--.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 5, 11, 16, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ellis et al (U.S. Patent No. 5,035,476, of record).

Ellis et al disclose a confocal laser microscope system having an illuminating device. The microscope comprises two objective lens systems disposed on opposite sides of a specimen wherein the two objective systems have the similar optical characteristics and high numerical apertures and infinite output intersection length. A mirror (64) is arranged at the exit pupil plane of the objective lens (63) and acts as a phase-conjugating mirror for the purpose of reflecting the light from the specimen passing through the objective (63) back to the specimen. See column 2, lines 60 through column 3, lines 2) and column 5, lines 26-37. At column 4 (lines 65+) and column 6 (lines 1-9), Ellis et al teach that 1) a dichroic beam-splitter can be used in place of the beam-splitter (54) in an application involves fluorescent illumination; and a detecting system is coupled with the microscope for detecting the fluorescent image. As a result of the

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arrangement of the mirror (64) for reflecting light passing through the specimen back to the specimen itself then the light to be detected by the detecting system is the fluorescent light emitted by the specimen and the fluorescent light reflected from the mirror (64). The use of a laser source for illuminating the specimen is disclosed as can be seen in column 5 and the objectives and the mirrors are arranged to provide a bright field illuminating pattern. It is also noted that the use of an illumination pinhole (53) for the illuminating system and a pinhole (65) for the detecting system is disclosed in columns 5-6.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al in view of Muller et al (U.S. Patent No. 4,515,445, of record).

The microscope having an illuminating system and two objective lens systems disposed on the opposite sides of a sample as provided by Ellis et al meets all of the features recited in present claim 13 except the feature related to the movement of one of the objective lens systems. However, the use of a microscope having two objective lens systems on opposite sides of a sample, and one of the objective lens system is able to move for adjusting the illumination/observation manner is clearly disclosed in the art as can be seen in

the microscope provided by Muller et al. See abstract and column 4. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope provided by Ellis et al by moving one of the objective lens system as suggested by Muller et al for the purpose of varying the intensity or contrast .

Allowable Subject Matter

9. Claims 8-10 and 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: The microscope having two objectives having substantially identical optical properties arranged opposite to each other and sandwiched a transparent specimen wherein a mirror is placed in a back focal plane of one objective for reflecting light transmitted through the specimen back into itself and only reflected fluorescent radiation and fluorescent light from the specimen are reimaged in a detector as recited in claim 8 is patentable with respect to the cited art, in particular, the U.S. Patent Nos. 5,035,476; 4,515,445; and 2,601,175 and the Japanese reference No. 5-288992 by the limitation related to the phase-conjugating mirror disposed in the back focal plane of the objective. It is noted that while the use of a curved mirror is disclosed in the U.S. Patent No. 2,601,175 and the Japanese reference No. 5-288992; however, both the references do not disclose that the phase-conjugating mirror or the adaptive mirror is operated in a

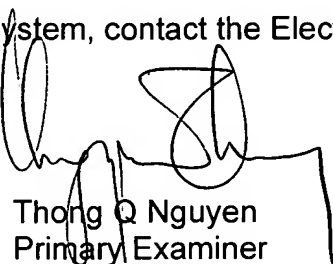
manner that the wavefront of the reflected light is made to coincide with the wavefront of the transmitted light.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Nguyen
Primary Examiner
Art Unit 2872
